

REMARKS

Claims 1-11 are all the claims pending in the application. Applicant acknowledges with appreciation the indication of allowable subject matter in claim 4, but respectfully requests reconsideration of the application and allowance of all claims in view of the following remarks.

The prior art rejections of claims 1-3 and 5-11 are respectfully traversed.

Umeda, as discussed by the examiner, discloses a laser diode differentially driven by direct connection to either side of a differential amplifier. Since both sides of the differential amplifier are direct current coupled to the semiconductor laser, Umeda does teach the feature of claim 1 that a first output of the differential amplifier is direct-current-coupled to a first terminal of the semiconductor laser. But as pointed out by the examiner, Umeda does not teach the last feature of claim 1, i.e., a second output of the differential amplifier being alternating-current-coupled to a second terminal of the semiconductor laser.

Link teaches an arrangement wherein only one side of the differential amplifier is connected to the laser diode, and it is AC coupled. The examiner argues that it would have been obvious to one of ordinary skill in the art to combine the drive connections of the two references to obtain an arrangement having both DC and AC couplings. Applicant disagrees that such a modification would have been obvious, and respectfully submits that the rejection is based entirely on hindsight.

As explained in the response filed August 20, 2007, an AC coupling is a coupling that passes AC and blocks DC. AC and DC couplings are mutually exclusive, and cannot exist simultaneously in the same connection. Both sides of the differential amplifier in Umeda are DC

coupled to respective sides of the laser diode. It would make no sense at all to also AC couple one side of the differential amplifier to the laser diode. This would result in one side of the differential amplifier being both DC and AC coupled to the diode. Parallel AC and DC couplings combine to form a DC coupling, because the combined coupling does not block DC. So if the AC coupling of Link were added to Umeda, the result would still be a DC coupling.

It is also to be noted that Umeda teaches a differential drive that is DC coupled, and Link teaches a single-sided drive that is AC coupled, and at best one of skill in the art would view the two as alternatives to one another and would choose one or the other. If the artisan desired the AC connection of Link, he would use that, but would no longer use the differential drive of Umeda. There is nothing in either reference that suggests it would be advantageous to have both drive modes.

Another way of observing the two circuits is that Link teaches single-sided AC drive, and Umeda teaches DC-coupled differential drive. These cannot be combined, because the differential DC drive requires that both sides of the amplifier be DC coupled to the diode. The present invention uses single-sided DC drive and differential AC drive. Neither Umeda nor Link teach a single-sided DC drive, and neither teaches a differential AC drive. Yet somehow the examiner has concluded that both of these drive modes would result from an obvious modification of two references which teach neither of these modes.

Still further, the examiner alleges that the motivation the artisan would have had for making the proposed modification would be to add a high pass filter to allow for sufficient headroom. But there is no reason to believe this effect would be achieved. In Link, the collectors of the transistors on both sides of the differential amplifier are coupled to the Vcc

supply, with the collector of the transistor Q1 being coupled to the supply through an inductor LAC so that that one side of the amplifier can be used to drive the diode. The capacitor CAC will prevent the DC supply voltage level from being applied to the low side of the diode. This single-sided AC drive is designed to operate in a particular fashion. Now add a direct connection from the other differential transistor to the other side of the diode. Since the two differential drive transistors are driven simultaneously but complementarily to one another, the signals at the collectors of the two transistors will be at the same frequency as one another. Assuming the AC connection of Link is added to one side of Umeda so as to achieve a filtering effect on that side, the other side of the differential amplifier is driving the other side of the diode with no high pass filtering. So if high pass filtering is what the user wanted, the only obvious solution would be to use the Link connection arrangement *without* the direct coupling of Umeda.

For all of the above reasons, it is submitted that the combination of the teachings of these references proposed by the examiner would not have been obvious, and that the rejection is only supportable by using the teaching of the present application as a road map. Such hindsight based rejections are clearly improper.

Claim 11 distinguishes over the art for the same reasons.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

REQUEST FOR RECONSIDERATION
U.S. Application No.: 10/760,397

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The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

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CUSTOMER NUMBER

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